

EXECUTIVE SUMMARY - NEW PERMIT
(March 29, 1988)

Mine Name:	<u>Tintic Project</u>	I. D. No.:	<u>M/023/007</u>
Operator:	<u>North Lilly Mining Company</u>	County:	<u>Juab</u>
	<u>P.O. Box 759</u>	New/Existing:	<u>New</u>
	<u>Moss Beach, CA 94038</u>	Mineral Ownership:	<u>Private</u>
Telephone:	<u>415-728-5505</u>	Surface Ownership:	<u>Private</u>
Contact Person:	<u>Mr. Doug Lee, V.P.</u>	Lease No.(s):	<u>N/A</u>
Life of Mine:	<u>3 years</u>	Permit Term:	<u>3 years</u>

Legal Description: Portions of Sections 26 and 25, Township 10 South, Range 3 West; SLBM, Juab County, Utah.

Mineral(s) to be Mined: Gold

Mining Methods: Reprocessing mill tailings by cyanide heap leaching

Acres to be Disturbed: 30 acres

Present Land Use: Mining, grazing and wildlife

Postmining Land Use: Mining, grazing and wildlife

Variances from Reclamation Standards (Rule M-10) Granted: None requested

Soils and Geology:

Soil Description: Inorganic slightly clayey loams with interbedded thin lenses of sands, gravels and cobbles

pH: 7.4 - 8.7

Special Handling Problems: Low erosion hazard, very flat topography.

Geology Description: Quaternary/late Pleistocene Lake Bonneville alluvial sediments. Most of the rock in the higher elevations to the east are of Cambrian or Tertiary age. The latter consists mostly of quartz monzonite identified as the Silver City stock and Swansea monzonites

Hydrology:

Ground Water Description: Groundwater in the area occurs in unconsolidated alluvial fan material approximately 350 feet below the project site. No adverse impacts are expected.

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Surface Water Description: No perennial or intermittent streams are found within the project area. Storm drainage will be routed around disturbed areas to minimize erosion and sedimentation of the project site

Water Monitoring Plan: Leak detection systems will be installed beneath the heap leach pads and process water ponds.

Ecology:

Vegetation Type(s): Sagebrush - shrub type; big sagebrush, western wheatgrass, rabbitbrush and bottlebrush squirreltail

Percent Surrounding Vegetative Cover: 18.6 percent

Wildlife Concerns: Minimal concerns, limited wildlife use, no T & E species

Surface Facilities: The processing facilities will consist of a lined leach pad, two solution collection ponds and a recovery plant

Mining and Reclamation Plan Summary: See attached summary.

Surety:

Amount: \$92,522

Form: Certificate of Deposit, First Security Bank #1085735

Renewable Term: 3 years, automatic renewal

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ATTACHMENT

Mining and Reclamation Plan Summary
North Lily Mining Company
Tintic Project
M/023/007

March 29, 1988

During Operations:

- 1) The proposed mining operation will move and reprocess existing mill tailings using a cyanide heap leach recovery process. The existing tailings occupy approximately 15 acres. The process facility will affect an additional 15 acres.
- 2) Topsoil will be stripped from the areas to be disturbed, stockpiled and protected from erosion.
- 3) Drainage will be routed and controlled to prevent erosion and sedimentation of the project site.

Following Operations:

- 1) All disturbed areas, including roads and pads, which were constructed, upgraded or used for on-site operations will be reclaimed upon final termination of mining activities.
- 2) Leach heaps will be neutralized. All buildings will be removed and the foundations broken up and disposed.
- 3) The disturbed area will be stabilized and regraded to conform with the natural surrounding terrain.
- 4) Stockpiled topsoil will be redistributed over the project area. Standard agronomic practices will be used to prepare the seedbed for drill seeding. Disturbed areas will be reclaimed with native vegetative species.
- 5) All equipment and extraneous debris will be removed from the minesite.

RECLAMATION EQUIPMENT AND COSTS (Revised 12/4/87)
Supplement to Notice of Intent
Tintic Project
North Lily Mining Company

1.0 UNIT COSTS AND RANGES

The equipment and materials that can be used in the reclamation of the Tintic Project are detailed in this section, and the unit costs tabularized. The heavy equipment needed for dozing, grading, and drainage control are available onsite from the mining operations. Equipment to be used during final reclamation and revegetation will need to be located in this area of Utah either from local ranchers or from reclamation contractors.

The costs given here are based on recent quotes from contractors in this area or from actual rates currently in use at the site. Ranges of costs and the most likely costs were verified for this estimate by calls to some local contractors. These costs reflect the current state of the local economy, but should be valid for the life of the project of three years.

Equipment onsite that can be used for reclamation:

TD20 dozer, International,
Dump truck, 15 cu yd capacity,
980C loader, Caterpillar 5.5 cu yd capacity,
120B road grader, Caterpillar equipped with rippers,
31S backhoe tractor, Kamatsu, and
637 scraper, Caterpillar 25 cu yd capacity.

Reclamation equipment (will be hauled periodically to site):

Rangeland drill,
Farm tractor,
Discs, rake, harrow, etc.,
Hay spreader (mechanical blower), and
Crimper

Revegetation Materials:

Seed,
Hay, or hydromulch,
Fertilizer, and
Soil amendments.

For estimation purposes, the costs of reclamation are broken down into equipment, labor and materials costs; then into a per acre cost for revegetation. The estimated costs are given first for typical contractor prices for this area, and then a range to be expected in central Utah depending on availability, location, and contract prices.

Estimated reclamation costs on a unit basis for the Tintic Project:

Type	<u>\$/hr</u>	
	<u>Unit</u>	<u>Range</u>
<u>Equipment</u> (Includes operator, fuel, and maintenance)		
Dozer	50	40-85
Grader	45	45-55
Loader	65	55-70
Backhoe	35	35-50
Scraper	1.25/yd	.50-2.25/yd
<u>Labor Costs</u>		
Heavy equipment operator	10	8-12
Laborer	7	7-9
Foreman	12	12-14
Subsistance/day/man	30	25-40
<u>Material Costs</u>		
Seed		
grass	5.50/lb	1-20/lb
shrub	35/lb	20-90/lb
seedlings	.80/each	.50/1.75/each
Hay	295/ton	270-315/ton
Fertilizer	295/ton	270-315/ton
Soil amendments	5.75/lb	3.50-8.75/lb

Contractor Costs for Revegetation

550/acre

400-1100/acre

(soil amending and preparation, seeding and mulching)

2.0 PROJECT COMPONENT COSTS

The project component costs are estimated on a contractor basis, not the actual costs to the North Lily Mining Company, which will perform most of the reclamation work. The time for equipment usage is estimated either on a linear or acreage basis.

1. Interim reclamation of the tailings dump area

Rough grading

Dozer - 24 hrs @ \$50/hr 1,200

Grader - 8 hrs @ \$45/hr 360

Topsoil placement

12,100 yds @ \$1.25/yd 15,125

Final grading/drainage

Grader - 24 hrs @ 45/hr 1,080

Revegetation

Materials - 15 ac @ \$285/ac 4,275

Contractor - 15 ac @ \$550/ac 8,250

Subtotal 30,290

2. Final Reclamation

Site decommissioning 5,475

Building removal, site cleanup

Equipment & labor estimate 5,760

Final Grading and stabilization

Dozer - 80 hrs @ \$50/hr 4,000

Grader - 56 hrs @ \$45/hr 2,530

Backhoe - 24 hrs @ \$35/hr 840

Topsoil placement

25,000 yds @ \$1.25/yd 31,250

Drainage and sediment control

Dozer - 40 hrs @ \$50/hr 2,000

Grader - 20 hrs @ \$45/hr 900

Revegetation		
Materials - 15.5 ac @ 285/ac		4,420
Contractor - 15.5 ac @ \$550/ac		8,525
Final drainage control		
Grade - 16 hrs @ \$45/hr		720
Monitoring		
Survey - 2 yrs @ \$1,000/yr		<u>2,000</u>
	Subtotal	68,420
<u>Reclamation Costs: Total</u>		<u>98,710</u>
add 10% Contingency		108,581
add 2% compounded annually		
GRAND TOTAL		<u>\$115,230</u>

The final estimated costs for the total reclamation for the project (plus decommissioning and drainage control) is about \$3,700 per acre for the 30 acres on the Tintic Project. This cost should be fully adequate for the reclamation since no unusual conditions are anticipated.